

## Effect of Training Program Regarding Incident Report on Nurses' Knowledge and Practice at Assuit Rajhy - Liver Hospital.

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### Abstract

**Background:** Incident report is an important tool which helps health care provider to manage and document their medical and administrative information. **Aims:** Designing, implementing training program to improve Nurses' knowledge and practice about incident report at Assuit Rajhy- Liver Hospital. **Research design:** A quasi-experimental design with pre, post and follow up test were utilized. **Study subject:** included all nurses (n=30) at Assuit Rajhy- Liver Hospital. **Study tool:** a tool was applied regarding incident report for (pre, post and follow up phase of the training program) about incident report. **Results:** There was marked improvement about nurses' knowledge and practice immediately after program implementation and retained through follow up, with highly statistical significant differences through the program phases. **Conclusion:** Study subject had an improvement of knowledge and practice through follow up phase. **Recommendation:** Maintain and apply incident report structured form developed within the present study as permanent data source at Assuit Rajhy- Liver Hospital and for University Hospitals.

**Key words:** *Incident Report & Training Program.*

### Introduction

In Nightingale early writings described the need for nurses to record the proper use of fresh air, light, warmth, cleanliness, and the proper selection and administration of diet with the goal of collecting, storing, and retrieving data to manage patient care intelligently. In Nightingales time, documentation was used primarily to communicate implementation of medical orders, not to observe, assess, or evaluate the patient's status as it is today (Patricia & Duclos, 2011). A patient record system is a type of clinical information system, which is dedicated to collecting, storing, manipulating, and making available clinical information important to the delivery of patient care. There are many type of reports including change of shift report, telephone reports, telephone orders, transfer reports, incident reports, Legal reports (Menachemi et al., 2007).

Incident report is the most critical component for any charting system, is a risk-management document that helps for rapid response or review of potentially faulty systems, can assist in identifying liability to provide the risk manager with the information needed to process restitution if appropriate and to refresh the memories of both the nurse manager/supervisor and the staff nurse (Patricia & Duclos, 2011). Additionally, Chiou et al., (2011) mentioned that, incident reports can be used as a positive management tool which serves

quality improvement, event documentation and liability monitoring.

### Significance of the study

Rajhy- Liver Hospital is a new hospital working by Hospital Information System as a tool for documentation, purposing to high quality of care and quality improvement of the hospital. After reviewing the current system, the system hasn't an incident report which is very important component of any (HIS) for improving quality of patient care, decreasing length of patient stay costs, and misses. Therefore, the need is felt to study a problem in order to improve Nurses' knowledge and practice about incident report.

### Aim of the study

Study the effect of designing, implementing a training program on improving Nurses' knowledge and practice about incident report at Assuit Rajhy- Liver Hospital.

### Research hypothesis

- Studied nurses knowledge and practice about incident report will improved after implementation of the training program.
- There are differences exist between studied nurses knowledge and practice about incident report.

## Subjects & methods

### Study design

A quasi-experimental design with pre-post test were utilized

**Setting:** The study was conducted at Assuit Rajhy-Liver Hospital.

**Study subject:** included all nurses (n=30) who were worked at Assuit Rajhy- Liver Hospital.

**Study Tool: Pre, post and follow up test about incident report:** it was developed by the researcher. Using paper and pencil test which filled out at the beginning of the program, immediately after implementation and after three months latter for follow up. It consisted of two parts:

**First part:** about personal and occupational data which included age, sex, job title, educational qualification, unit name, and years of experience at Assuit Rajhy -Liver Hospital.

**Second part:** about incident report including eight open ended questions.

The scoring system for knowledge in pre and post - test and follow up as follows, a correct response was scored (2), incomplete correct (1) and incorrect (zero).

### Methods

#### Operational design

##### Preparatory phase

After reviewing the available literatures concerning the topic of the study, The study tool was developed and the validity were assessed to check the relevance and coverage of the questions by a jury panel of professor from Nursing Administration Department (n=4), Medical-Surgical Nursing Department (n=1), Community Health Nursing Department (n=1), Psychiatric Nursing Department (n=1), Faculty of Nursing-Assuit University. Accordingly, modifications were done and the final form was developed. The study tools reliability were assessed by Cranach's alpha coefficients for the structured questionnaires was 0.83.

##### \*Pilot study

A pilot study was carried out on a group of 10% of the study subject before embarking on the field work to find out the difficulties present in questions in order to modify or clarify them, or to omit or add certain questions, and to estimate time needed to fill the forms. Also, the pilot helped to determine the organizational, administrative procedures needed for the study, and detect constraints that may arise and how to deal with them. Modifications and clarifications were done according to the pilot results. Minor modifications were done, and the final form was developed. It took about two months from April to May /2014.

### Field work

#### Planning and developing a training program

The program was planned and designed based on the needs assessment in this study after analysis of the auditing result. **The planning phase included the following**

#### Formulating program objectives and time table of the program:

**General objective:** to develop nurses from Assuit Rajhy -Liver Hospital their scientific and practical abilities about application of incident report.

**Specific objectives:** by the end of this program, nurses will be able to:

- Define the concept of reports and records
- Enumerate the objectives of reporting and recording in nursing
- Mention characteristics of good report.
- Mention the general principles of documentation
- Define incident report.
- Discuss the purposes of incident report.
- Enumerate and classify types of incidents.
- Apply incident report form.
- Mention the causes of not using incident report.
- Discuss the procedure of telling about incidents.

▪ **Teaching strategies used:** Lecture, small group discussion, brain storming, and case study.

▪ **Teaching aids used:** Handout was provided to all nurses, power point, flip charts, video presentation, photographs.

#### Implementation of the program

The program was implemented by the researcher on the representative sample from Nursing Staff (n=30) from different units. The sample was divided into two groups. Each group contains of 15 participants from different units and one group for physicians. Program was implemented and each group took two days. The course content was spread into 6 sessions for every group, three sessions per day, every session 1.5 hours. The theoretical part was delivered in 4 sessions, and application was given in two sessions. The total time of the program was 18 hours for the two groups. A presentation was given by the researcher. At the beginning of the first session, an orientation to the program and its purpose was done and the participants were informed about time and place of session taken. Each session started by a summary about what was given during the previous one.

Participants were divided into two groups. Every group ranged from 14 to 15 nurses. This was done to avoid shortage of staff providing patient care, which might happen if all of them leave the department at the same time, and also because of the difference in shifts. That is to say the program was conducted two times for the two groups for staff nurses.

- This phase and follow up took about three months from September to December 2015.

#### Administrative design

Official permission obtained to collect data from Dean of Nursing Faculty -Assuit University, Medical Director and Nursing Director of Rajhy-Liver Hospital, General Director of Nursing, and Director of Continuing Education and Training Center were obtained to collect necessary data. Oral consent was obtained.

#### Ethical considerations

- The purpose of this study was explained to all participants and oral consent taken from the participants in the present study.

- Informed them that the information and data obtained will be confidential and used only for the purpose of the study

- Written consent taken from the participants through document dating before the program implemented.

#### Statistical design

Collected data were verified prior to computerized data entry and analysis by using statistical software package for social sciences (SPSS) v.g 20.program. Data were presented using descriptive statistics in the form of percentages also mean and standard deviations were calculated. For relation between variables mean and standard deviations were used, statistical significant was considered at P- value  $\leq 0.05$ .

## Results

**Table (1): Percentage distribution of personal characteristics of the study subject participated in the training program at Rajhy -Liver Hospital ( n=30).**

Items	Nurses No. (n= 30)	
	No.	%
<b>Sex</b>		
Male	3	10.0
Female	27	90.0
<b>Age: (years)</b>		
20 - < 25 years	23	76.7
25 - < 35 years	7	23.3
<b>Level of education</b>		
Secondary Technical Institute of Nursing.	20	66.7
Bachelor degree in Nursing Science.	10	33.3
Master Degree	0	0
<b>Job title</b>		
Technical Nurse	20	66.7
Head Nurse	10	33.3
Assistant lecturer	0	0
<b>Marital status:</b>		
Single	11	36.7
Married	19	63.3
<b>Years of experience:</b>		
< 5 years	21	70.0
5 - < 10 years	9	30.0
<b>Years of experience in Rajhy Liver Hospital:</b>		
< 2 years	12	40.0
2 - < 5 years	18	60.0
<b>Previous attendance workshops or training program:</b>		
Yes	25	83.0
No	5	16.6
<b>If answered (yes) mentioned it: Infection control</b>	25	83.0

**Table (2): Nurses' knowledge about incident report throughout the program phases.**

Variables	Pre	Post	Follow-up	P-value <sup>1</sup>	P-value <sup>2</sup>
	Mean ± SD				
<b>Concept of incident report</b>	0.27 ± 0.45	1.97 ± 0.18	1.43 ± 0.57	<b>0.000*</b>	<b>0.000*</b>
<b>Events which documented in incident report</b>	0.37 ± 0.85	4.90 ± 0.31	4.63 ± 0.67	<b>0.000*</b>	<b>0.000*</b>
<b>Purposes of incident reports</b>	0.57 ± 0.97	3.67 ± 0.88	3.43 ± 1.07	<b>0.000*</b>	<b>0.000*</b>
<b>Issues and principles when documenting the incident report</b>	0.47 ± 1.01	<b>8.33 ± 1.27</b>	6.73 ± 0.98	<b>0.000*</b>	<b>0.000*</b>
<b>Included items of incident report format</b>	0.87 ± 1.46	5.23 ± 3.16	<b>7.03 ± 1.81</b>	<b>0.000*</b>	<b>0.000*</b>
<b>Reasons for not applying incident report</b>	1.00 ± 0.98	4.33 ± 0.55	4.27 ± 0.64	<b>0.000*</b>	<b>0.000*</b>

(\*) Statistically significant.

P1: means the relation between pre and posttest.

P2: means the relation between pre and follow – up 3months.

**Table (3): Percentage distribution of Nurses' total knowledge and practice regarding to incident report.**

Variables	Pre-test		Post-test		Follow-up 3 months		P-value <sup>1</sup>	P-value <sup>2</sup>
	No.	%	No.	%	No.	%		
Unsatisfactory knowledge and practice	30	<b>100.0</b>	5	16.7	2	6.7		
Satisfactory knowledge and practice	0	0.0	25	83.3	28	<b>93.3</b>		

(\*) Statistically significant.

P1: means the relation between pre and posttest.

P2: means the relation between pre and follow up -3 months.

Personal characteristics of the studied nurses participated in the training program showed in **Table (1)**: The highest percentage of them were female, their age ranged from 20 to less than 25 years old, having experience less than 5 years, and have secondary technical Institute of Nursing. Also, the table illustrated that they were married, and their experience at Rajhy-Liver Hospital were less than 5 years (90.0%, 76.7%, 70.0%, 66.7% 63. 3%, and 60.0%) respectively. Also, the majority of them had attended training courses about infection control only. Finally all of them hadn't attended any workshops or training programs as regards to incident report.

Nurses' knowledge regarding to incident report throughout the program phases illustrated in **Table (2)**: As the table shows all nurses' knowledge about incident report have improved in all variables immediately after the program implementation and follow up with highest mean score as regards to issues and principles when documenting the incident report was (8.33 ± 1.27) but the highest mean score in follow up after 3 months regarding to "Items of incident report format" were (7.03 ± 1.81). There were highest statistical significant differences

between studied nurses' knowledge were in pre, post and follows up as regard to incident report (P= 0.000).

Percentage distribution of Nurses' total knowledge and practice regarding to incident report **Table (3)**: As the table illustrated that, studied nurses' knowledge and practice at immediately post implementation of the program and follow up was satisfactory with highly statistically significant differences (p<0.000).

### Discussion

Through accurate documentation, nurse communicants to others and decreases the potential for miscommunication, errors and provide patient safety in the form of incident reporting (**Randal, 2007 & Nelson, 2007**). Based on the results of the present study as regard to personal characteristics of nurses, the present study was carried out on all nurses, the highest percentage of nurses were females, their ages ranged from 20 to 25 years old. Also, the majority of them were qualified with technical institute of nursing with less than 5 years of experience at Rajhy-Liver Hospital. Also, both of

them hadn't attended any in-service training courses related to the present program content (table 1).

From the present study results, it was clear that the majority of nurses were less than five years of experience. This may be attributed to the hospital worked recently and all of them recently hired and graduated with technical institute nurses.

The study was based on the hypothesis that, after implementation of the training program, nurses mean score of knowledge about incident report will be higher than before implementation of the program. This hypothesis was supported by the present study results, which showed higher mean score of knowledge and satisfactory with highly statistically significant differences in all mentioned scores immediately after implementation of the program compared to before implementation of the program.

The current study revealed that a highly statistical significant differences between nurses' knowledge about incident report in pre, post and follow-up of the training program. There were high percentages of them had improved their knowledge immediately after implementation of the program (posttest).

While, according to the present study findings, statistically significant differences decreased as regards to nurses' knowledge scores where noticed in the follow up after three months. However, the scores were still higher than the pre-test scores. This contributed to that the nurse didn't continue to use or read the handouts which they received during implementation of the program, and may be due to work overload and lack of time. Also, The study was based on the hypothesis that, after implementation of the training program, Study Participants had satisfactory knowledge and practice with highly statistically significant differences in all mentioned scores immediately after implementation of the program compared to before implementation of the program table (4).

The findings were consistent with **Evans et al., (2007)** who reported that the mean scores of nurses' knowledge and practice increased from pre to immediately post-test, and then decreased at three months follow-up, but was still higher than the pretest level.

Additionally, the study finding of **Feng & Wilson (2011)** clarified that, most forgetting occurs because information in short term memory was never transferred to long term memory. However, forgetting can also occur due to lack of abilities to recall information that is in long memory.

The current study findings revealed that, the great majority of nurses' knowledge and practice in areas about incident report had improved in all variables immediately after the program implementation and

follow up with highest mean score as regards to issues and principles when documenting the incident report (table 3). There were no statistically significant differences between mean scores of nurses' knowledge as regards to incident report in pretest of the program except about reasons for not applying incident report ( $P=0.012$ )\*. This might be related nurses were more aware with incident reporting system at Rajhy-liver hospital.

The foregoing study findings were consistent with **Mrayyan et al., (2007) & Christiaans et al., (2011)** who mentioned that safety issues and experiences of errors should be communicated to the incident reporting committee. Reporting can be either by filling an electronic form or a paper based report form containing, but not limited to "a description of the event, the place, the time and the people involved in the event". This might be attributed to nurses were more aware with incident report at Assiut Rajhy-Liver Hospital. The main barrier for not using incident report is the absence of default recognition culture, fear from superior punishment and bad personal image.

Also, in the same line **Fitzgerald et al., (2011)** mentioned that respondents believed that reporting an error or incident could be placed on their work records that would jeopardize future promotion and job security. These study findings were inconsistent with **Raeda et al., (2015)** who reported that the major three barriers to reporting incidents were believed that there was no point in reporting near misses, lack of feedback and fear of disciplinary actions.

The present study findings cleared that the highest mean score of knowledge about incident report at follow up after 3 months regarding to "included items in an incident report format" with a high statistical relations between studied nurses' knowledge were in pre, post and follows. And From the researcher point of view and as stated by program participants they had modified their clinical practice due to filling out and submitting a clinical incident report at post and follow up phase.

These findings were congruent with **Fitzgerald et al., (2011)** who mentioned that participants expressed that demonstration process of completing and submitting a clinical incident report can cause staff to alter work practices.

However, in disagreement with these present study findings, **Evans et al., (2006)** and **Raeda et al., (2015)** reported that nurses more aware with incident report. Incident reporting procedure represents a reactive response to critical incidents, and should be complemented by more proactive and systematic risk management activity aimed at minimizing the risk of any new incidents, such as hazard identification.

## Conclusion

Study subjects had a marked improvement with satisfactory total mean score of knowledge and practice immediately after program implementation as regards to incident report. This improvement was mostly retained through follow up phase after three months.

## Recommendation

Maintain and apply the incident report structured form, developed within the present study as permanent data source at Assiut Rajhy-Liver Hospital and for all other Assiut University Hospitals.

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